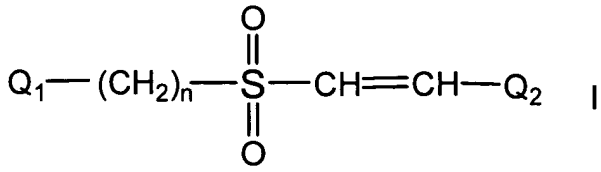
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (previously presented) A method for protecting an animal from cytotoxic side effects of the administration of a mitotic phase cell cycle inhibitor or a topoisomerase inhibitor comprising administering to the animal, at least about 4 hours before administration of the inhibitor, an effective amount of at least one cytoprotective α,β unsaturated aryl sulfone compound, wherein the mitotic phase cell cycle inhibitor is selected from the group consisting of vinca alkaloids, taxanes, naturally occurring macrolides, and colchicine and its derivatives and the topoisomerase inhibitor is selected from the group consisting of camptothecin, etoposide and mitoxantrone.

2. (currently amended) A method according to claim 1 wherein the cytoprotective compound has the formula I:



I

wherein:

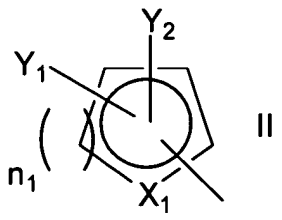
n is one or zero;

$Q_1$ and $Q_2$ ~~are~~, same or different, are substituted or unsubstituted aryl; or

a pharmaceutically acceptable salt thereof.

3. (currently amended) The method according to claim 2 wherein:

$Q_1$ is selected from the group consisting of substituted and unsubstituted phenyl, 1-naphthyl, 2-naphthyl, 9-anthryl and an aromatic radical of formula II:



II

wherein:

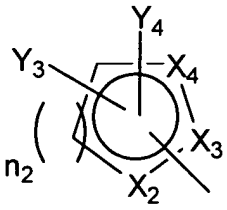
$n_1$ is 1 or 2,

$Y_1$ and $Y_2$ are independently selected from the group consisting of hydrogen, halogen, and nitro, and

$X_1$ is selected from the group consisting of oxygen, nitrogen, sulfur and

; and

$Q_2$ is selected from the group consisting of substituted and unsubstituted phenyl, 1-naphthyl, 2-naphthyl, 9-anthryl and an aromatic radical of formula III:



III

wherein:

$n_2$ is 1 or 2,

$Y_3$ and $Y_4$ are independently selected from the group consisting of hydrogen, halogen, and nitro, and

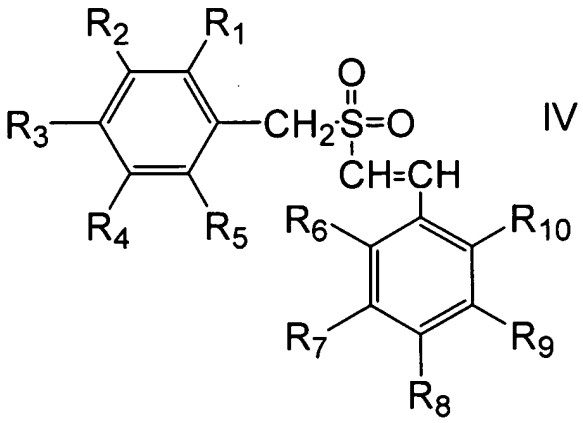
$X_2$, $X_3$ and $X_4$ are independently selected from the group consisting of carbon, oxygen, nitrogen, sulfur and

provided that not all of $X_2$, $X_3$ and $X_4$ may be carbon; or

a pharmaceutically acceptable salt thereof.

4. (previously presented) A method according to claim 3 wherein $Q_1$ and $Q_2$ are selected from substituted and unsubstituted phenyl.

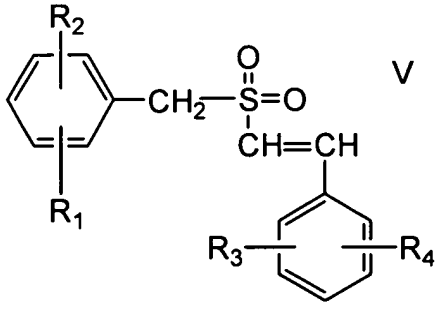
5. (original) A method according to claim 4 wherein the cytoprotective compound has the formula IV:




wherein:

$R_1$ through $R_{10}$ are independently selected from the group consisting of hydrogen, halogen, C1-C8 alkyl, C1-C8 alkoxy, nitro, cyano, carboxy, hydroxy, phosphonato, amino, sulfamyl, acetoxy, dimethylamino(C2-C6 alkoxy), C1-C6 trifluoroalkoxy and trifluoromethyl; or a pharmaceutically acceptable salt thereof.

6. (original) The method according to claim 4 wherein the cytoprotective compound has the formula V:



wherein $R_1$, $R_2$, $R_3$ and $R_4$ are independently selected from the group consisting of hydrogen, halogen, C1-C8 alkyl, C1-C8 alkoxy, nitro, cyano, carboxy, hydroxy and trifluoromethyl; or a pharmaceutically acceptable salt thereof.

7. (original) The method of claim 6 wherein the cytoprotective compound is selected from the group consisting of (E)-4-fluorostyryl-4-chlorobenzylsulfone; (E)-2-chloro-4-fluorostyryl-4-chlorobenzylsulfone; (E)-4-chlorostyryl-4-chlorobenzylsulfone; (E)-4-carboxystyryl-4-chlorobenzyl sulfone; and (E)-4-fluorostyryl-2,4-dichlorobenzylsulfone.

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (original) The method of claim 1 wherein the cytoprotective compound is of the Z-configuration.

13. (Cancelled)

14. (previously presented) The method according to claim 1 wherein the cytoprotective compound is administered at least about 12 hours before administration of the mitotic phase cell cycle inhibitor or topoisomerase inhibitor.

15. (original) The method according to claim 14 wherein the cytoprotective compound is administered at least about 24 hours before administration of the mitotic phase cell cycle inhibitor or topoisomerase inhibitor.

16. (Cancelled)

17. (previously presented) The method according to claim 1 wherein the mitotic phase cell cycle inhibitor is selected from the group consisting of paclitaxel and vincristine.

18. (currently amended) In a method for treating breast, prostate, non-small cell lung or colorectal cancer ~~or other proliferative disorder~~ comprising administering an effective amount of at least one mitotic phase cell cycle inhibitor or topoisomerase inhibitor to an animal in need of such treatment, the improvement comprising administering to the animal at least about 4 hours prior to administration of the mitotic phase cell cycle inhibitor or topoisomerase inhibitor an effective amount at least one cytoprotective α, β unsaturated aryl sulfone compound, wherein the mitotic phase cell cycle inhibitor is selected from the group consisting of vinca alkaloids, taxanes, naturally occurring macrolides, and colchicine and its derivatives and the topoisomerase inhibitor is selected from the group consisting of camptothecin, etoposide and mitoxantrone, and wherein the animal is protected from the cytotoxic side effects of the administration of the mitotic phase cell cycle inhibitor or topoisomerase inhibitor.

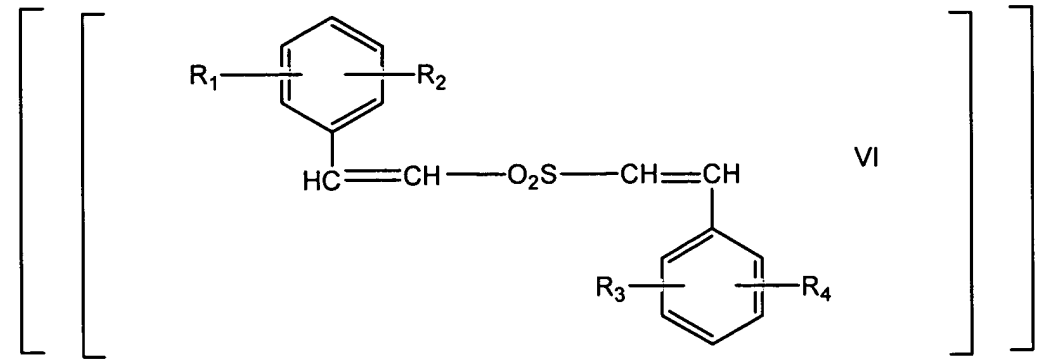
19. (Cancelled)

20. (previously presented) The method according to claim 18 wherein the cytoprotective compound is administered at least about 12 hours before administration of the mitotic phase cell cycle inhibitor or topoisomerase inhibitor.

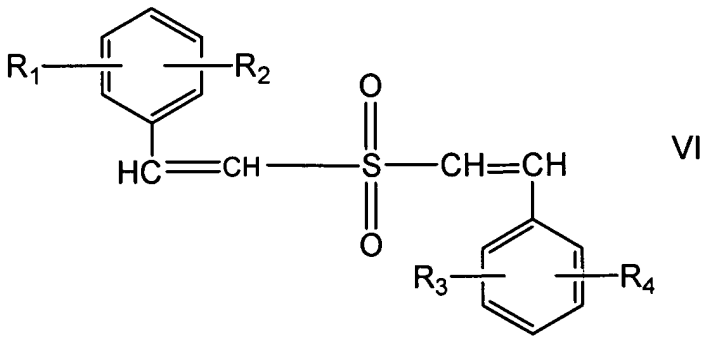
21. (original) The method according to claim 20 wherein the cytoprotective compound is administered at least about 24 hours before administration of the mitotic phase cell cycle inhibitor or topoisomerase inhibitor.

22. (original) The method of claim 18 wherein the cytoprotective compound is selected from the group consisting of (E)-4-fluorostyryl-4-chlorobenzylsulfone; (E)-2-chloro-4-fluorostyryl-4-chlorobenzylsulfone; (E)-4-chlorostyryl-4-chlorobenzylsulfone; (E)-4-carboxystyryl-4-chlorobenzyl sulfone; and (E)-4-fluorostyryl-2,4-dichlorobenzylsulfone.

23. (currently amended) The method according to claim 1 wherein the cytoprotective compound is according to formula VI:




VI




VI

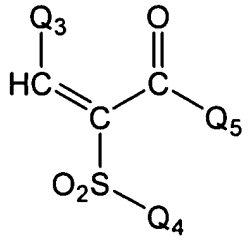
---

wherein:

$R_1$, $R_2$, $R_3$ and $R_4$ are independently selected from the group consisting of hydrogen, halogen, C1-C8 alkyl, C1-C8 alkoxy, nitro, cyano, carboxy, hydroxy and trifluoromethyl;

or a pharmaceutically acceptable salt thereof.

24. (currently amended) The method according to claim 1 wherein the cytoprotective compound is according to formula VII:

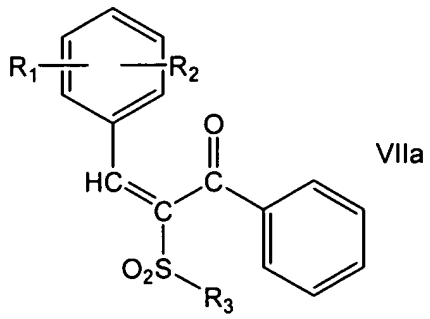


VII

~~Wherein~~

wherein $Q_3$, $Q_4$ and $Q_5$ are independently selected from the group consisting of phenyl and mono-, di-, tri-, tetra- and penta-substituted phenyl where the substituents, which may be the same or different, are independently selected from the group consisting of halogen, C1-C8 alkyl, C1-C8 alkoxy, nitro, cyano, carboxy, hydroxy, phosphonato, amino, sulfamyl, acetoxy, dimethylamino(C2-C6 alkoxy), C1-C6 trifluoroalkoxy and trifluoromethyl; or a pharmaceutically acceptable salt thereof.

25. (currently amended) The method according to claim 24 wherein the cytoprotective compound is according to formula VIIa:



VIIa

wherein:

$R_1$ and $R_2$ are independently selected from the group consisting of hydrogen, halogen, C1-C8 alkyl, C1-8 alkoxy, nitro, cyano, carboxy, hydroxy, and trifluoromethyl; and

$R_3$ is selected from the group consisting of unsubstituted phenyl, mono-substituted phenyl and di-substituted phenyl, the substituents on the phenyl ring being independently selected from the group consisting of halogen and C1-8 alkyl; or a pharmaceutically acceptable salt thereof.

26. (previously presented) The method of claim 25 wherein the cytoprotective compound is 2-(phenylsulfonyl)-1-phenyl-3-(4-fluorophenyl)-2-propen-1-one.

27. (previously presented) The method according to claim 1, wherein the animal is a human being.

28. (previously presented) The method according to claim 18, wherein the animal is a human being.